Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands	)	WT Docket No. 06-150
	)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems	)	CC Docket No. 94-102
	)	
Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones	)	WT Docket No. 01-309

REPLY COMMENTS OF TROPOS NETWORKS

Tropos Networks ("Tropos") submits these reply comments in response to the Federal Communications Commission's ("Commission") Notice of Proposed Rulemaking ("NPRM") in the above captioned proceedings.[1] The Commission asks for comments on a variety of licensing and service rules affecting both auctioned and unauctioned spectrum in the 698-746, 747-762, and 777-792 MHz bands ("700 MHz Band"). Tropos recommends that current Blocks A and B in the lower band of 700 MHz Band be designated for contention-based unlicensed operations to capture the ability of the unlicensed environment to provide affordable broadband networks expeditiously.

Tropos technology uses the radio spectrum to deliver broadband to individuals, businesses, and government agencies. Wi-Fi mesh technology, manufactured by Tropos and its competitors, uses unlicensed spectrum and has emerged as a model of facilities-based broadband competition to cities, suburbs, and rural areas. The technology is providing broadband to

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[1] *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands,* Notice of Proposed Rule Making, 21 FCC Rcd 9345 (2006).

communities where incumbent providers do not make it available, to people for whom broadband connectivity through commercial providers is unaffordable and as an alternative competitive choice in the broadband market. The technology is ideal for use in rural America, where the cost of wiring communities has often been prohibitive and where incumbent providers have consistently declined to provide broadband service.

I. INTRODUCTION

Tropos Networks, headquartered in Sunnyvale, California, provides wireless Wi-Fi technology that delivers broadband access using unlicensed spectrum. In more than 450 deployments, Tropos technology is providing wireless broadband over large geographic areas. Its MetroMesh architecture allows a network to be installed at substantial savings over legacy systems by eliminating costly backhaul and proprietary client devices. No large towers need to be constructed; no streets need to be excavated. The system's capacity is designed for advanced applications delivering voice and video. Portable wireless devices, now mass produced to operate in a Wi-Fi environment, also reduce cost and expand consumer choice.

With its partners, Tropos has emerged as a facilities-based broadband provider in a market that lacks connectivity and competition. Tropos is the technology provider to EarthLink in its Philadelphia and Anaheim projects, and in the Google/EarthLink San Francisco project. Tropos equipment in New Orleans, in place prior to Hurricane Katrina to support video surveillance, is being expanded in coverage and use. The Federal Trade Commission, in a recent staff report, profiles the expanding number of municipal Wi-Fi deployments delivering broadband.[2] The innovation permeating Wi-Fi technology, the growing investment committed,

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[2] *Municipal Provision of Wireless Internet*, FTC Staff Report (September 2006), http://www.ftc.gov/ftc/news.htm.

and the expanding number of deployments is demonstrating how technology can lower cost and bring broadband to all Americans, including those without access to broadband services in rural America.

II. CONTENTION-BASED TECHNOLOGIES USING UNLICENSED SPECTRUM IN THE 700 MHz BAND WILL PROMOTE AFFORDABLE AND PERVASIVE BROADBAND

In this proceeding, the Commission asks for comments on the character of the 700 MHz Band, the technical advances capable of deploying advanced high speed service that have transpired in the four years since the Commission promulgated its 700 MHz rules, the recognition that transaction and other costs are often the inhibiting factor to deploying broadband, that the size of service areas and markets have a relationship to promoting access and how deployment to rural areas and tribal lands are integral elements to bringing advanced communications to all Americans.

In its comments, Tropos stated that the Commission's auction and service rules in the 700 MHz Band should embrace a contention-based unlicensed environment. Tropos supports the comments of Doug Howard and Farooq Javed ("Howard and Javed") that the Commission set aside easements in the 700 MHz Band to allow parties using approved spectrum underlay technology to use licensed spectrum. According to Howard and Javed, the Commission's rules and prior decisions indicate that such use of licensed spectrum is allowed and encouraged.[3] Tropos also agrees with the comments of Howard and Javed that use of unlicensed devices increase the availability of broadband services via greater capacity, innovation and provide a more robust communications system.[4] Tropos has observed firsthand the benefits of such

[3] Doug Howard and Farooq Javed Comments at 33-37.

[4] *Id.* at 33.

services to communities across America. Tropos' equipment used in New Orleans during and after the aftermath of Hurricane Katrina is just one example.

In Wi-Fi mesh networks using unlicensed spectrum the Commission has a successful model that is delivering advanced services at substantially reduced costs over legacy systems of incumbent providers. Indeed, contention-based unlicensed operations may be the only model available for rural communities. As set forth by the Comments of Frontier Communications, the availability of DSL service in rural serve areas is potentially limited to loops extending less than 15,000 feet from a central office rural service providers.[5] Moreover, it may not be economic or efficient for a rural service provider to acquire spectrum to provide wireless services to its existing service territories unless the Commission decides to create license size service areas that better match the service territories of rural telephone companies. [6]

Frontier suggests that the Commission auction some portion of the 700 MHz spectrum based on county service areas.[7] However, unless the Commission ultimately reserves spectrum for rural carriers and permits license sizes similar to rural telephone companies service territories,[8] rural businesses and consumers will have little choice as to wireless broadband services. To ensure wireless broadband opportunities to rural communities, the Commission should permit contention-based unlicensed operations in the 700 MHz Band. Tropos recommended that that current Blocks A and B in the lower band of 700 MHz Band be designated for such operations.

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[5] Frontier Communications Comments at 3.

[6] *See Id.* at 4-5.

[7] *Id.* at 7.

[8] OPASTCO Comments at 2-4.

In this proceeding, the Commission also asked for comments on the obligation to provide substantial service. Tropos supports the comment of Howard and Javed to tighten up the build-out requirement by eliminating population-based and geography-based safe harbors in favor of a three year build-out requirement.[9] The Commission should replace the current substantial service requirement with a standard embracing an established yet limited time frame. Tropos opposes the suggestion of Corr Wireless Communications, LLC that a substantial service requirement is unnecessary because market forces will result in efficient build-out of wireless services.[10] The lack of wireless broadband choices in rural America today demonstrates that market forces alone are insufficient motivators for broadband deployment. The Commission's substantial service requirements should recognize the President's goal of making affordable broadband available to all Americans by the end of 2007.

In this proceeding the Commission has the opportunity to expand broadband access immeasurably through contention-based technology using unlicensed spectrum in the 700 MHz band. Recognizing how important the propagation character of the 600-700 MHz band is when combined with unlicensed technology's ability to lower costs is paralleled in the Commission's recent Order and Further Notice of Proposed Rulemaking in the so-called TV white space proceeding.[11] Both proceeding present the Commission with the enormous opportunity to pursue the future of communications. As Commissioner Copps stated:

> I have long supported freeing up additional unlicensed spectrum. In many contexts – as with the enormously successful bands that support today's Wi-Fi networks – unlicensed uses most closely approach the ideal of the ***people's airwaves***, to be used in direct service

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[9] Howard and Javed Comments at 24.

[10] Corr Wireless Communications, LLC Comments at 5-8.

[11] *Unlicensed Operations in the TV Broadcast Bands*, First Report and Order and Further Notice of Proposed Rulemaking FCC 06-156 (rel. October 18, 2006).

of the public interest. With our recent AWS auction and the upcoming 700 MHz auction, we are opening up a huge swath of prime spectrum to *licensed* use – and it seems to me, on the present record, that the appropriate balance is to open up the TV white spaces to *unlicensed* use.[12]

IV. CONCLUSION

Current Blocks A and B in the lower band of 700 MHz Band should be designated for contention-based unlicensed operations to capture the ability of the unlicensed environment to provide affordable broadband networks expeditiously. Comments show support for unlicensed operations in the 700 MHz Band and demonstrate the need for additional innovative wireless broadband solutions for rural America.

Respectfully submitted,

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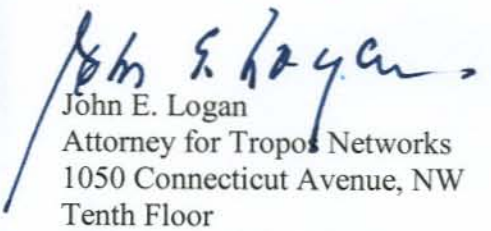

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[12] Concurring Statement of Commissioner Michael J. Copps, supra.